Early Austrian influence on Australian botany

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Abstract

Three Austrian botanists visited Australia within the first fifty years of settlement: Ferdinand Bauer, Franz Sieber, and Karl von Hügel. They differed in their backgrounds, itineraries and motivations; they left rich legacies of plant collections and publications.

At the end of the eighteenth century Vienna was the capital of the Holy Roman Empire, ruled by the Habsburgs. This multi-cultural, multi-ethnic realm included large parts of present day Germany. In 1792 Franz II had been crowned Holy Roman Emperor in Frankfurt. To Vienna, the third largest capital of Europe at the turn of that century, flocked musicians, writers and intellectuals, mostly conversing in the German tongue, and essentially German in their backgrounds and heritage.

In the rich setting of the Imperial State, the many palaces were surrounded by glorious gardens which showed splendid collections of plants. These were considered to be particularly valuable if they had their origins in distant lands. These plants were displayed and then portrayed by famous artists. It was the age of the production of beautiful books with illustrations of flowers grown generally in Royal or 'titled' gardens and hot-houses: flowers which only the wealthy could afford. This was the horticultural background in Vienna at the turn of the eighteenth century; thus it was similar to the situation in Paris or London. In all three cities there were botanists interested in the floras of remote countries (Riedl-Dorn 1988).

The end of the eighteenth century was also the age when, under the influence of Carl Linnaeus (1707–1778) and Antoine-Laurent de Jussieu (1748–1836), all plants were being named and classified according to a natural system. This necessitated detailed structural and anatomical investigation. Parts of the plants, particularly the reproductive parts, were dissected and, for communication with other botanists, illustrated. So the new combination of art and science — botanical illustration — was developed. It was thus, since the time of Linnaeus, that the exactness of plant portrayal became so important a tool of the practising botanist. This art developed in the Austrian capital just as much as the love of gardens, and the endeavours of exploration were fostered in this and other centres of Europe.

In the beginning of the nineteenth century three Austrian botanists came to New Holland (Ducker 1981a,b). They differed in their backgrounds, their education and their aims. All three are important for the development of Australian botany.

Ferdinand Lucas Bauer (1760–1826)*

The first Austrian botanist to arrive in Australia was Ferdinand Lucas Bauer. Ferdinand and his elder brother Franz Andreas (1758–1840) were the sons of a Court painter to the Prince of Liechtenstein in Feldsberg near Vienna. They were discovered by, and worked for, the Dutch-born Professor of Botany and Chemistry in Vienna, Nicolas Joseph von Jacquin (1727–1817), who brought the brothers to Vienna. He introduced them to the morphology and anatomy of plants, a knowledge so necessary for the art of botanical illustration. It was Jacquin who pioneered the artistry of informative botanical drawings which was later perfected by his students, the Bauer brothers. At first the brothers were employed under his supervision to make the drawings for some instalments of the *Icones plantarum rariorum* (1781–1793). These illustrations were then reproduced as copper engravings and printed on 12 copies only of elephant folios. It is important to remember that the brothers learned botany, drawing and engraving from Jacquin. They were thus well equipped for the things to come (Stearn 1976).

John Sibthorp (1758–1796), Sheradian Professor of Botany at Oxford, on his way to the Ottoman Empire in 1786, met Ferdinand in Vienna. Sibthorp was researching the *Codex Vindobonensis* in the Imperial Library. This manuscript, *De Materia Medica*, had been written in Constantinople in the sixth century A.D. and contained paintings of the plants used by the herbalist Dioscorides in the first century. Sibthorp was so impressed with Ferdinand Bauer that he engaged him as illustrator for his journey to Greece and Turkey. The botanical results of this journey were published later in *Flora Graeca prodromus* and *Flora graeca* (1806–1840), the latter with beautiful engravings based on watercolours by Ferdinand.

While Ferdinand was in England his brother Franz came to visit; there and then, in 1788, Franz was engaged by Sir Joseph Banks as a salaried botanical draughtsman to the Royal Gardens at Kew. Franz

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* Ed. note: this paper is essentially that which was presented at the symposium. Since then the following book has been published: Norst, Marlene J. (1989). *Ferdinand Bauer. The Australian natural history drawings.* 120 pp. (Lothian Publ. Comp.: Melbourne).

Bauer illustrated many Australian plants, both from various collections made in Australia and also specific ones to illustrate the writings of Robert Brown. He remained at Kew for the rest of his life where he was buried in the churchyard of St. Anne on Kew Green only a few steps from his house and from Kew Gardens.

On 12 December 1800 Sir Joseph Banks wrote to Robert Brown

> . . . a ship is this day order'd to be fitted for the purpose of exploring the natural history of New Holland, & it is resolved that a naturalist & a Botanic Painter shall be sent in her.

I have no record of how Banks approached Ferdinand Bauer to join the team who, with Matthew Flinders, sailed in HMS *Investigator* to Terra Australis. But Bauer left his work in England and sailed in July 1801 to Australia. In December of that year Cape Leeuwin was sighted by the sailors. From there they sailed to King Georges Sound and thence to Doubtful Bay (Mabberley 1985). In Western Australia the botanists Brown and Bauer and the Scottish gardener Peter Good (?-1803; Edwards 1981) collected about 500 specimens of flowering plants. Many illustrations record Bauer's activity during the subsequent circumnavigation of Australia. Brown was the naturalist, observing plants and animals alike, while Bauer made drawings of plants and animals.

After the circumnavigation of Australia, fate played a peculiar game with the scientists of the *Investigator*. Flinders went home to replace the leaking *Investigator* with a better ship. While he returned in the ill-fated *Porpoise*, Brown and Bauer decided to remain in New Holland to await Flinders' return. Bauer collected plants and seeds around Sydney. Australian orchids were grown from these seeds in hot-houses at Kew Gardens, and some of these were later portrayed by Franz Bauer in *Illustrations of orchidaceous plants* (1830–1838) with a text by John Lindley (1799–1865), the famous London botanist.

From Sydney Ferdinand Bauer visited Norfolk Island. His plant collection was immortalized in *Prodromus florae Norfolkicae* (1833) by Stephan Ladislaus Endlicher (1804–1849) who, as a successor to Jacquin, was Professor of Botany in Vienna. Both Ferdinand Bauer and Robert Brown returned to England in the repaired *Investigator* in 1805 while Flinders was held captive on Mauritius by the French.

Ferdinand Bauer's drawings from Australia were a marvellous complement to the herbarium specimens of Brown. The illustrations were done under the watchful eye of Brown. They showed the salient botanical characters of the new plants as well as the pertinent features for classification. As Bauer had done so many sketches and colour coded his pencil drawings of the specimens in the field, the colouration of the flowers and fruits was correct and not spoilt by being painted from dead herbarium specimens. Of the animals, perhaps the best examples are of marine animals, such as the crabs and sea horses. The brilliant hues of the paintings show that they were recorded from almost fresh organisms, before the discolouration in death had progressed.

Between 1806 and 1813 Ferdinand Bauer worked on his *Illustrationes Florae Novae Hollandiae*. As he insisted on colouring these himself, fewer than fifty copies were printed. This is the only book published in his name in 1814. In the same year his ten botanical illustrations for Flinders' *Voyage to Terra australis* (1814) were published. In 1814 Ferdinand said goodbye to Franz and to Robert Brown. He returned to his native land where he died in Vienna in 1826.

In 1833 Endlicher published the *Prodromus florae Norfolkicae*, enumerating all the plants collected by Bauer on Norfolk Island: lichens, bryophytes, ferns and higher plants. There were 117 illustrations selected but not published with this book. The originals, done while Ferdinand Bauer was on Norfolk Island, are in Vienna in the Natural History Museum with, according to Blunt (1950), more than 2,000 other unpublished Ferdinand Bauer drawings from Australia. There is also a large number in the British Museum (Natural History), Kensington. Stearn (1976), with the Basilisk Press, published 25 of the beautiful water colours. During the Australian Bicentenary year, 1988, some of Ferdinand Bauer's illustrations were reproduced, and so made available to the Australian public (Mabberley 1985; Eisler & Smith 1988; Steven 1988). They are not only one of our great heritages but also a help to the practising botanist.

Franz Wilhelm Sieber (1789–1844)

Sieber (Fig. 1) was one of the earliest botanists who collected Australian natural objects as a commercial enterprise. Born in Prague (30 March 1789) from well-to-do parents and highly gifted, Sieber trained as an architect and engineer but soon changed to the study of natural sciences, particularly botany (Weitenweber, 1852). He realized that there was a good market for the sale of herbaria and live plants, and started to advertise botanical collections from European countries he was about to visit. After a few collecting trips, he returned to Prague to take up the study of medicine, but did not complete the degree. Following this, he visited Egypt and Palestine collecting and later selling the plants, herbaria and seeds in Munich, Vienna and his home city, Prague (Dietrich 1881).

Soon he prepared to venture further afield and sailed with Karl Zeyher (1799–1858) from Marseilles

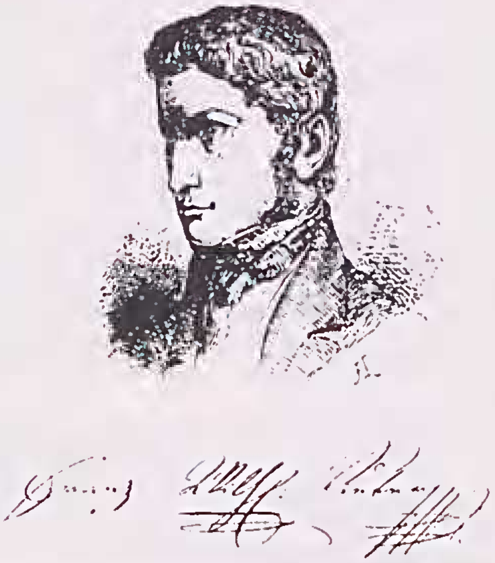


Fig. 1. Portrait and signature of F. W. Sieber (Glückselig 1847).

in *Les deux Nouvelles Nanettes* (22 August 1822). At the Cape of Good Hope, Zeyher disembarked for his now famous collecting period. Sieber sailed on to the Ile de France, now Mauritius, arriving on 12 December 1822. On the ship *Midas* he left for Sydney (8 April 1823) where he arrived on the first of June 1823.

Sieber (1824) described his impressions in a letter from Sydney dated 4 August 1823: 'he was delighted with the splendour and richness of the flora. Although it was winter, the country parched, and the streams without water, he had collected 300 different species in the Colony Jackson composed of 64 square miles'. He also recorded that he had been to the Blue Mountains, 60 miles from Sydney, and seen a miraculous vegetation, had travelled 120 miles along the seashore to collect marine vegetation including seaweeds and had met Mr Cunningham who introduced him to 150 species of *Acacia*. He subsequently commented on 'the black swans and the droll voices of the magpies, simulating human voices and modulations of tone'.

Sieber was lucky to meet the English botanist, Allan Cunningham (1791–1839), who had returned at that period from his circumnavigation of Australia with Phillip Parker King. Sieber worked very hard during the seven months in New South Wales, preparing excellent and extensive collections of plants which were labelled *Flor. Nov. Holl.* and *Pls. Exot.*

He left Sydney in December 1823 and sailed through the Pacific, past the Galapágos Islands and Cape Horn to the Cape of Good Hope, where on 8 April 1824 he again met Zeyher. He sailed again on the *Berwick* with his collection of Australian plants and Zeyher's collection of Cape plants, and arrived in London on 14 July 1824. This remarkable journey round the world was accomplished in less than two years and was a great achievement for that period. Sieber brought home to Europe a rich harvest of Australian plants (Maiden 1908; Weitenweber 1852).

After his return from Australia, Sieber went to Dresden in Saxony to work with Heinrich Gottlieb Ludwig Reichenbach (1793–1879). He formally described few species, leaving much of this work to Reichenbach and other experts of the day, including Endlicher, Kurt Polycarp Joachim Sprengel (1766–1833) and Augustin Pyramus de Candolle (1806–1893). Sieber's collection of the Proteaceae was described by Robert Brown in the Supplement to his *Prodromus* (Brown 1830). Dietrich's (1881) list of species gathered by Sieber incorrectly gives him as the authority of many of the plant names. This reflects Sieber's usage of manuscript names for species, names that were often adopted by the experts, e.g. *Eucalyptus pauciflora* Sieber ex Sprengel, *E. stellulata* Sieber ex DC.

Sieber's voyage and collecting in Australia, short as it was, was one of the last happy and successful periods in his life (Glückselig 1847). After that, he became increasingly mentally disturbed and was obsessed by the idea that he had invented a cure for rabies (Maiwald 1901, 1904). In 1830, Sieber advertised the sale of his 'herbaria, which were world wide, including New Holland, and contained 18,000 species. The price was low because money was needed for the publication of a treatise on rabies'. The herbarium sale was handled by the trading firm of Laemmel and Son, who had earlier sold part of his 'Botani-Bay' collection to the Kayserlichen Naturalien Cabinet in Vienna where Diesing (C.M. 1800–1862) was a curator. Sieber was finally committed to the Prague lunatic asylum on 15 December 1830, where he died fourteen years later on 17 December 1844.

The importance of Sieber's Australian visit, in spite of its short duration, is great. Being in New South Wales in spring and summer, he found large numbers of plants in flower, which he collected systematically and labelled well. By the distribution and sale of his herbaria the experts of his time were able to handle and make use of his labours in the distribution of plants among these many Australian examples.

Reichenbach (1825) wrote that Sieber returned with about 1,500 distinct species from New Holland and said the possibility to make so many discoveries in the New Holland Flora in such a short time without having government supported helpers can only be explained in his expertise, his industry and profound knowledge. Furthermore, Reichenbach said that Sieber travelled in the Blue Mountains where new roads had just been made and where no botanical foot had yet trodden, and hence so many new plants could be found.

Sieber, essentially a poor man, collected plants to make money, as it was customary to collect the 'green gold' to enrich the gardens and herbaria of the rich or Royal institutions. Fear of running out of money drove his feet, fear of others returning earlier to Europe with Australian plants made him return so soon. It was all his own enterprise. The poor devil had no support like Banks's collectors. The system under which Sieber worked was very much harder and more risky than that of the early French and English expeditions. These were supported by moneyed private persons, by royalty or directors of gardens. During the entire eighteenth and nineteenth century there were few collectors who risked the enterprise without support. The achievements of Sieber are quite remarkable; in spite of his short stay and limited financial resources, he brought back to Europe an important collection of Australian plants: algae, ferns and flowering plants.

Karl Alexander Anselm von Hügel (1795–1870)

The third visiting Austrian plant collector and botanist differed markedly from both Bauer and Sieber in his background, training and motivation. The Baron von Hügel arrived in the Swan River Colony in 1833.

Karl von Hügel, son of Johann Aloys Joseph Freiherr von Hügel and his wife Anna Susanna Phillipina Holdthoff was born 25 April 1795 in Regensburg on the Danube. His father was an Austrian diplomat and delegate to the German Reichstag at Regensburg personally appointed by the Austrian Emperor Franz (Wurzbach 1863). After the defeat of the Germans by Napoleon in 1805, the Reichstag and the Holy Roman Empire were disbanded and the von Hügel family moved permanently to Vienna. Here Karl was educated by private tutors until he entered Heidelberg University as a law student. In 1811 Karl (Fig. 2) joined the Austrian army fighting the war of independence against Napoleon and representing Austria on diplomatic missions at different courts in Europe. But, in 1824, von Hügel retired from his commission in the army and took up the study of natural sciences in Vienna.

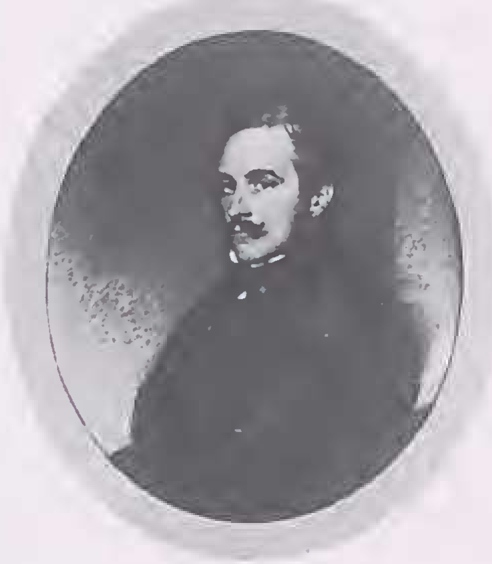


Fig. 2. K. A. von Hügel, from a miniature on ivory by Moritz M. Daffinger, Vienna 1831. Portrait engraved on copper by Eaton.

After his father's death von Hügel lived in the family villa at Hietzing close to Schönbrunn, the Habsburg's summer residence near Vienna. Here he devoted his time and considerable means to the study of the natural sciences particularly botany and horticulture. This brought him in contact with the leading botanists at the University of Vienna. The chair was held by Joseph Franz von Jacquin (1766–1839), son of the former Professor N. J. von Jacquin. Dr S. L. Endlicher, first employed in the Royal Library, followed him in the chair. With all these he had successful discourse and learned a great deal of botany and horticulture from them and their institutions. His private means allowed him to extend his gardens and to employ very good gardeners. He corresponded with botanists all over the European continent and England and he organized an effective exchange of seeds and plants. He had connections with all famous botanists of this period and was respected by them. Prior to his travels to the southern continent, plants had been named for him, even Australian plants. *Huegelia* was a name given by H. G. L. Reichenbach to a plant from Rottnest Island, grown from seed in Europe. Now *Trachymene* Rudge, it was one of the first plants von Hügel recognized on his arrival in Fremantle. Also *Huegelia* R. Br. ex Endl., now *Decadianthe* Reichb., was named to honour him.

It must be noted at this point that by 1830 Australian plants were widely grown in European Botanic Gardens. The honeymoon with the American flora was over and Australian plants were the most desired ones. By 1822 twenty four Australian *Acacia* species and eighteen eucalypts were grown in the Botanic Gardens at Berlin (Link 1822). The gardens at Kew and the gardens of Malmaison and the Jardin des Plantes in Paris prided themselves with their Australian representatives. The gardens of the Habsburgs and their dependents were also growing rare Australian plants. So it was no wonder that von Hügel knew a large number of Australian plants on arrival in Western Australia, and later in New South Wales.

At the end of 1820s von Hügel's engagement to the Countess Melanie Zichy-Ferraris was announced. Von Hügel presented his bride-to-be at court where she was seen and immediately desired by the rich omnipotent Prince Metternich. As she was the daughter of a poor heavily indebted Hungarian nobleman, the parents made her give up von Hügel and marry Metternich on 30 January 1831.

Shortly before this date, broken-hearted von Hügel visited England and France to prepare for a six-year journey to India, Ceylon, Australasia, the Philippines, India and Kashmir. Through the intercession of the Emperor Franz, von Hügel was not only accepted as *persona grata* in these foreign parts but was also able to join HM frigate *Alligator* under the command of Captain Lambert for a cruise around Australia, New Zealand, the Philippines and back to India.

Karl von Hügel's travels in Australia are well documented through publications (Diels 1906; Hamersley 1981) and a diary which he started immediately on arrival. This was later edited and copied by an amanuensis in German script. This three volume, 2,000-page manuscript in three bound volumes was purchased in 1932 by the Mitchell Library in Sydney (K. von Hügel 1833–1836). The volumes describe not only all the people, the plants, the roads and everything he saw, but all he thought and felt. He was still longing for his lost sweetheart and had bouts of melancholy which are really sometimes most tedious to read in his massive diary. His romantic approach to life is a sign of the period, while his other observations in the diary are of great interest to us today. This is because they reflect a completely different approach to the well-known English observations. Australia is seen with different eyes. An English translation prepared by Ducker and Clark has been deposited in the Mitchell Library, Sydney and an extract prepared by Clark (1988).

In the Swan River Colony, including King Georges Sound, Karl von Hügel's visit lasted from 17 November 1833 to 12 January 1834. He spent from 20 January until 8 February 1834 in Tasmania. Following this, von Hügel had two sojourns in New South Wales separated by a visit to New Zealand of two months. On the return journey he spent three days on Norfolk Island, commenting on the penal system and not on botany. His extended visit to New South Wales was from 16 April until 6 October 1834.

The diary of von Hügel shows his great interest in natural science. In Western Australia, straight after arrival, he describes the sandy coastal vegetation at Fremantle (Napier 1975). A long plant list was enumerated and he was seemingly familiar with many of the local genera. Later, in November 1833, he compared it with the limestone vegetation on the banks of the Swan River. Here, and later in Tasmania and New South Wales, he sought out and was introduced to settlers who were helpful to him with plant identification (Hamersley 1981). At the Swan River Colony he met John Septimus Roe (1797–1878) and James Drummond (1784–1878). This was very fortunate and when *Prostanthera* was pointed out to him near Fremantle he eagerly collected seeds for his gardener at Hietzing. In Western Australia too, he received herbarium plants from the surgeon Alexander Collie (1793–1835). At Albany in January he was delighted by the flora. Much was in flower in spite of the advanced season (Ducker 1984).

In Tasmania von Hügel's time was spent near Hobart Town; he ascended Mount Wellington on foot commenting on tree-ferns, which he saw for the first time (Webster 1988). The New South Wales section of the diary ends with a vegetation type survey of those parts of the country he had traversed. I think it is very interesting, since it is the earliest available classification of the landscape known to me from Australia and is based on soils, substrates and the accompanying vegetation.

In this diary von Hügel did not generally enumerate the plants which he encountered and only rarely did he write the specific names.

However, through the publication by Endlicher *et al.* (1837) of *Enumeratio plantarum Novae Hollandiae*, we have today a good record of his collecting in Western Australia. This volume lists all the plants which von Hügel brought back in his herbarium from the Swan River Colony. Many of these were new to science and have been described by the great botanists of his day together with Endlicher: Eduard Fenzl (1808–1878), George Bentham (1800–1884) and Heinrich Wilhelm Schott (1794–1865). The book also gives a short itinerary of his travels in that colony: arriving in Fremantle, he spent some time near the coast until he went to the Darlington Hills and then departed for King Georges Sound. Only plants from Western Australia are considered.

In 1838 Endlicher published *Stirpium australasicarum herbarii hügeliana decades tres* which described further plants from the von Hügel herbarium and contains taxa collected by both von Hügel and Roe. John Septimus Roe was a naval officer who became Surveyor-General of the newly formed settlement at Swan River. *Roea* Huegel ex Bentham remembers him and Steudel created *Hugelroea* to honour the two collectors.

Of the circa 350 new plants described from von Hügel's collections, the genera *Marianthus*, *Roea*, *Zichya* and *Macarthuria* commemorate personalities from his life. Bentham named the genus *Hardenbergia* after Franziska von Hardenberg, von Hügel's sister who married the Graf von Hardenberg. She also took care of the plants von Hügel had collected on his journeys. *Marianthus* Huegel ex Endlicher is named not only for his former betrothed, the Princess Marie von Metternich, but also because she was a patroness of botany in Austria. *Zichya mollis* Huegel also remembers her. *Macarthuria* Huegel ex Endlicher is named for William Macarthur (1800–1882), his host in New South Wales, who was a horticulturist, agriculturist and vigneron. Among the many plants, species of *Verticordia*, *Acacia*, *Mollinedia*, *Melaleuca*, *Stackhousia*, *Caladenia*, *Hardenbergia*, *Diplopeltis* and *Hibiscus* commemorate him by specific epithets. The two publications by Endlicher bear witness to von Hügel's interest in the Western Australian flora and his collecting zeal.

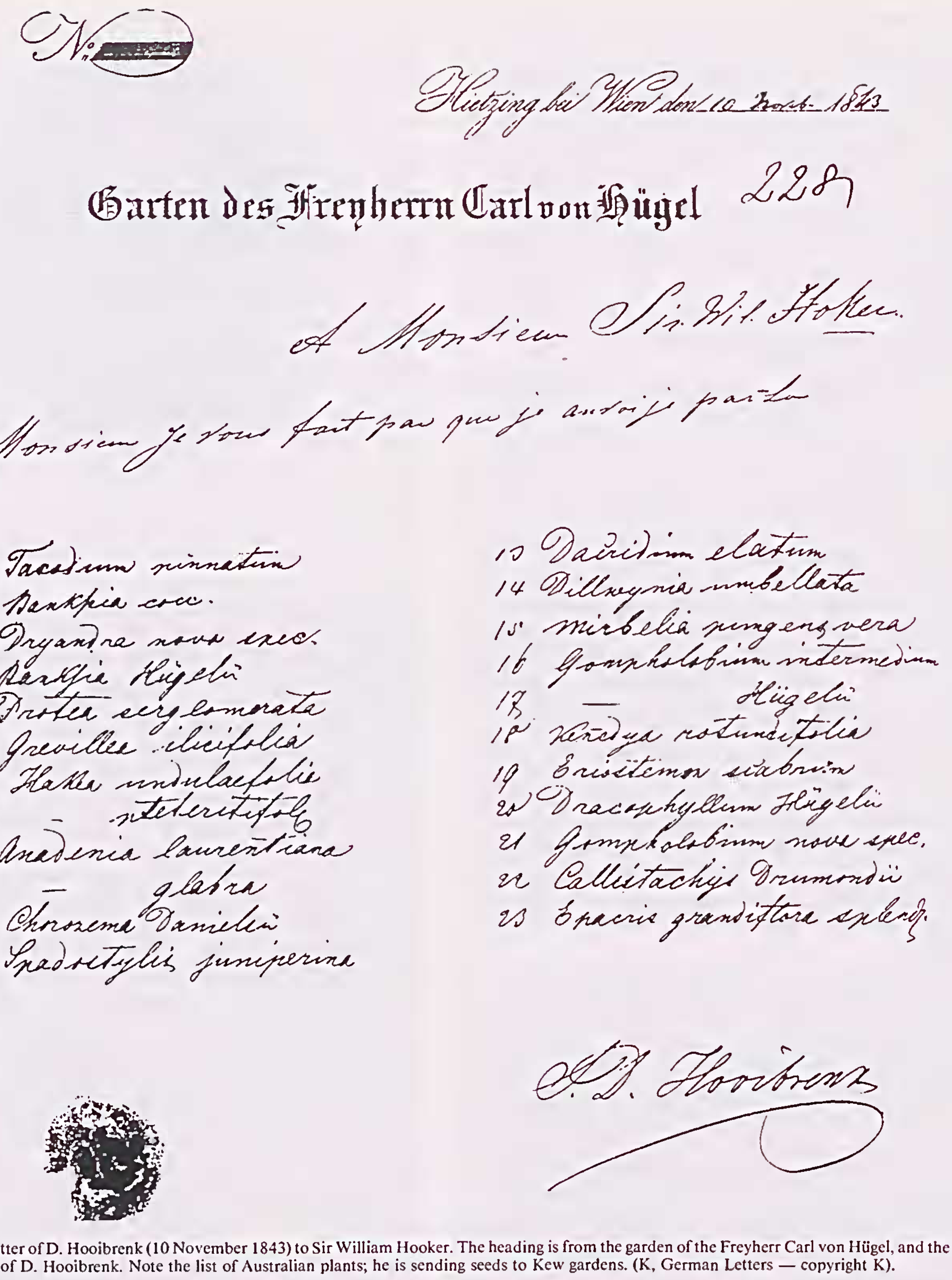
I am unaware of any plants collected by Karl von Hügel during his stay in Tasmania, New South Wales, New Zealand or Norfolk Island. But he acquired New Zealand herbarium plants from Richard Cunningham (1793–1835) on the instigation by Alexander Macleay, the Colonial Secretary, when they met as fellow passengers on board the *Alligator* returning from Norfolk Island (E. Webster, personal communication).

As well as the documentation of his observations in his diary, the travels of von Hügel are very important for Australian botanists for two other reasons; that is botanical publications, and the promotion of Australian plants in horticulture. Several publications resulted directly from his plant collections; the two by Endlicher and Endlicher *et al.* (1837, 1838) discussed earlier and von Hügel's own publication in the *Botanische Archiv der Gartenbaugesellschaft* (1837). In the latter publication the same plants as in Endlicher are given but they carry German descriptions aimed at garden lovers. These descriptions are accompanied by beautiful illustrations which have puzzled me for a long time. They bear the hallmark of the Jacquin-Bauer school, but are not of a comparable quality. After consultation with Dr H. W. Lack in Berlin, I believe that these are not by von Hügel himself, but by a professional illustrator employed by him. All illustrations are of plants which were growing in von Hügel's gardens at Hietzing.

Karl von Hügel promoted horticulture, with special emphasis on Australian plants, in continental Europe and also in England and Ireland. On his return from his travels in 1837 he founded the Austrian Horticultural Society, Die kaiserliche und königliche Gartenbaugesellschaft. This was modelled on the English Royal Horticultural Society. This was a plan that he had conceived in 1827 but which was delayed by his absence abroad. He was the first president of the society. The gardens of von Hügel rapidly attained a high reputation through their innumerable novelties. These plants had been brought home as plants, seeds and cuttings from India, Australasia and South Africa by the Baron. He and his gardeners entertained an active correspondence with botanists of the period. These were R. Brown, Bentham, the Hookers, F. Mueller and Endlicher (Letters at Kew, Fig. 4).

In the early years of his gardens and during the time of von Hügel's absence on his travels, Johann Heller (*fl.* 1838) officiated as the responsible gardener. In 1838 the Baron engaged Daniel Hooibrenk (1813–1863?), a Dutch gardener who had been trained in Holland and Paris. Hooibrenk, world famous for his gardening skill, was in charge of the von Hügel gardens from 1838 until 1849. It was Hooibrenk who purchased the major part of the von Hügel estate in 1849 and turned it into a famous market garden and plant nursery (Wurzbach 1858). He is important today for systematic botany through his correspondence with contemporary botanists relating to Australian plants grown and distributed from the von Hügel gardens, some of which were then used for additional material in plant descriptions. Part of a letter to W. J. Hooker is illustrated (Fig. 3). It contains a list of Australian plants grown in the von Hügel gardens and his signature. Today these gardens are swallowed up by suburbia and all that remains is a bust of Karl von Hügel erected in 1901 to commemorate the founder of the Austrian horticultural society (Ducker 1984).

After the Austrian revolution in 1848 Karl von Hügel never returned permanently to live in Vienna (A. von Hügel 1903) but lived as Ambassador in Flor-



N°

Hietzing bei Wien den 10 Novb. 1843

Garten des Freyherrn Carl von Hügel 228

A Monsieur Sir Wil. Hoker.

Monsieur Je vous fait par que je envoije par la

#1. Taxodium pinnatum
2 Banksia cocc.
3 Dryandra nova spec.
4 Banksia Hügelii
5 Protea conglomerata
6 Grevillea ilicifolia
7 Hakea undulaefolia
8 — teretifolia
9 Anadenia laurentiana
10 — glabra
11 Chorozema Danielii
12 Spadostylis juniperina
13 Daviesium elatum
14 Dillwynia umbellata
15 Mirbelia pungens vera
16 Gompholobium intermedium
17 — Hügelii
18 Kennedya rotundifolia
19 Eriostemon scabrum
20 Dracophyllum Hügelii
21 Gompholobium nova spec.
22 Callistachys Drummondii
23 Epacris grandiflora splend.

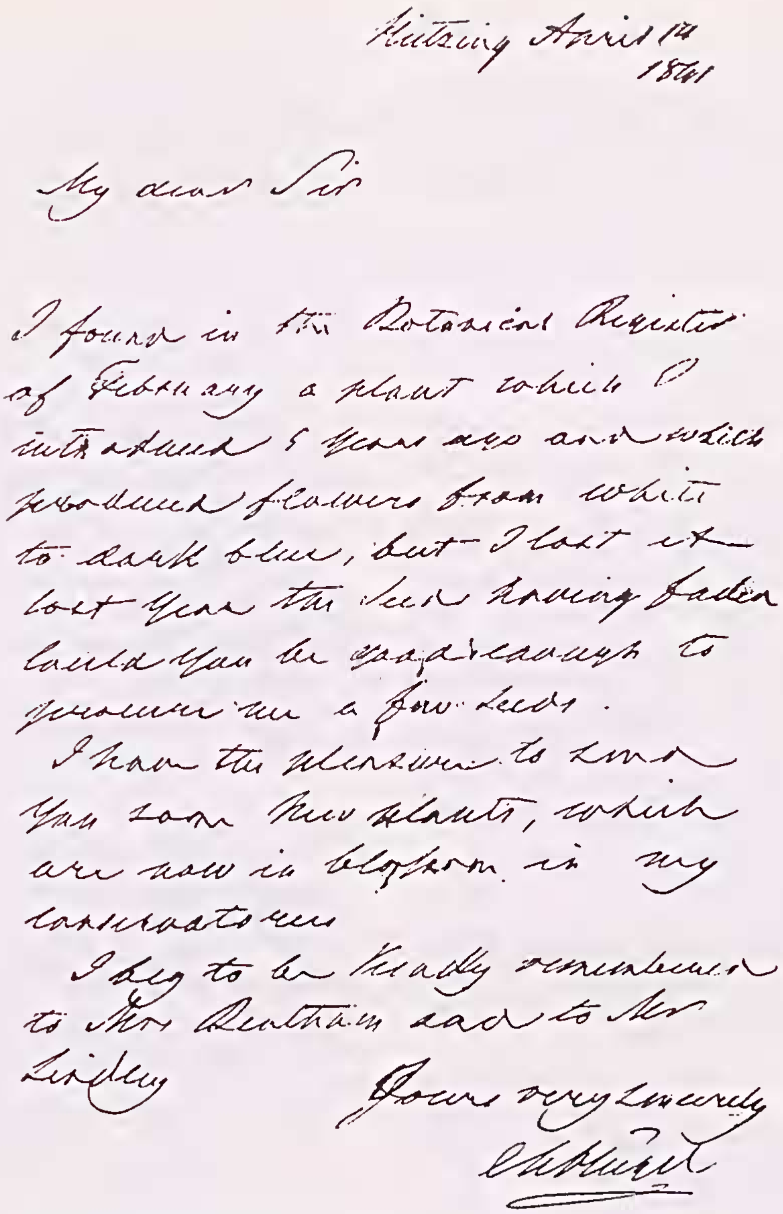
D. Hooibrenk

Fig. 3. Letter of D. Hooibrenk (10 November 1843) to Sir William Hooker. The heading is from the garden of the Freyherr Carl von Hügel, and the signature of D. Hooibrenk. Note the list of Australian plants; he is sending seeds to Kew gardens. (K, German Letters — copyright K).

ence and Brussels, where he died in 1870; he was buried in Vienna. In 1851 he had married Elizabeth Farquharson, daughter of a Scottish General. They had three children, the second son inherited the father's interests in natural history. Baron Anatole von Hügel came to Australia after succeeding to the title and, in 1874, made collections of birds while staying at Olinda in the Dandenong Ranges. He is sometimes confused with the father (Baines 1981).

In Vienna in 1847 von Hügel gave a lecture of special interest to Australians. It was to the Vienna friends of the Natural Sciences and dealt with recent explorations in central Australia. Comparing it with the well explored regions of Europe, he said that in New Holland only the coastal regions so far were known. Giving the story of explorations so far and naming Allan Cunningham, Sturt, Frome, Earl, Eyre, Oxley and Mitchell he discussed in this rare publication the Australian river system and the theory of a big inland sea. All this was in preparation in the talk about the achievements of Dr Leichhardt on his first journey to Port Essington and his preparation for the crossing of the continent and with all their best wishes for success.

Through his extended travels and publications on the Indian subcontinent (K. von Hügel 1840–1844;



Hietzing April 1st
1841

My dear Sir

I found in the Botanical Register of February a plant which I introduced 5 years ago and which produced flowers from white to dark blue, but I lost it last year the seed having failed. Could you be good enough to procure me a few seeds.

I have the pleasure to send you some new plants, which are now in blossom in my conservatories

I beg to be kindly remembered to Mrs Bentham and to Mr Lindley

Yours very sincerely
CHHügel

Fig. 4. Letter of C. H. Hügel (as he signed his English correspondence) to George Bentham including greetings to Mrs Bentham and Mr [John] Lindley dated April 1841. (K, Bentham Correspondence V — copyright K).

1850) and the Philippines (K. von Hügel 1860), Karl von Hügel received many awards and honours, among them an honorary degree of Oxford University and the Patron's Medal of the Royal Geographical Society of London for research in Kashmir and elsewhere (A. von Hügel 1903).

The three Austrian visitors to New Holland were indeed different. I frequently wonder how much they knew of each other. In the 1820s Vienna had about 250,000 inhabitants (Vanesa 1988); it is reasonable to assume that botanists knew each other, particularly as Endlicher published accounts of Australian plants for both Bauer and von Hügel. The affiliation of Sieber is somewhat different as he returned to Prague and then worked with Reichenbach in Dresden. But after his first spell in a hospital, believing that he was cured, he arrived with part of his Australian plant collections in Vienna in 1828 (Glückselig 1847).

All three Austrian travellers and collectors are mentioned by J. D. Hooker in the early history of Australian botany in the introductory essay to *Flora Tasmaniae* (1860). Ferdinand Bauer, Sieber and von Hügel created their own memorials by their labours on this continent. Their motivations varied but their legacies are part of our Australian botanical and artistic inheritance.

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References

Baines, J. A. (1981). *Australian plant genera.* (Soc. grow. Austr. plants: Chipping Norton).

Bauer, F. A. and Lindley, J. (1830–1838). *Illustrations of orchidaceous plants.* (James Ridgway & Sons: London).

Bauer, F. L. ([1806]-1813). *Illustrationes florae Novae Hollandiae.* (London).

Blunt, W. (1950). *The art of botanical illustration.* (Collins: London).

Brown, R. W. (1830). *Supplementum primum prodromi florae Novae Hollandiae. In* W. T. Stearn (ed.), *Prodromus* 1810, facsimile ed. Weinheim, J. Cramer 1960.

Clark, D. (1988). Nova hollandia huegelli. *In* Harmstorf I. (ed.), *The German experience of Australia 1833–1938.* Australian Association of von Humboldt Fellows. (Flinders University: Adelaide).

Diels, L. (1906). *Die Pflanzenwelt von West-Australien . . .* (Wilhelm Engelmann: Leipzig).

Dietrich, F. C. (1881). Franz Wilhelm Sieber, ein Beitrag zur Geschichte der Botanik vor sechzig Jahren. *Jahrbuch des königlichen Gartens des Museums zu Berlin* 1: 278–306.

Ducker, S. C. (1981a). Australian phycology: the German influence. *In* Carr, D. J. and Carr, S. G. M. (eds.) *People and plants in Australia.* (Academic Press: Sydney). pp. 116–138.

Ducker, S. C. (1981b). History of Australian phycology: early German collectors and botanists. *In* Wheeler, A. and Price, J.H. (eds.), *History in the service of systematics.* (Soc. bibl. nat. history: London).

Ducker, S. C. (1984). An Austrian gentleman gardener in the Swan River colony. *The Australian Garden Journal* 5: 160–165.

Edwards, P. I. (1981). *The journal of Peter Good.* Bull. British Museum Historical series 9. (London).

Eisler, W. and Smith, B. (1988). *Terra Australis.* (Art Gallery of New South Wales: Sydney).

Endlicher, S. L. (1833). *Prodromus florae Norfolkicae.* (Friedrich Beck: Wien).

Endlicher, S. L. (1838). *Stirpium australasicarum herbarii hügeliani decades tres.* (J. P. Sollinger: Wien).

Endlicher, S. L., Fenzl, E., Bentham, G. and Schott, H. W. (1837). *Enumeratio plantarum quas in Novae Hollandiae ora austro-occidentali . . .* (F. Beck: Wien).

Flinders, M. (1814). *A voyage to Terra Australis.* (London).

Glückselig, L. (1847). *Franz Wilhelm Sieber.* (Beck: Wien).

Hamersley, M. J. (1981). Botany and society in the Swan River Colony. *In* Carr, D. J. and Carr, S. G. M. (eds.), *People and plants in Australia.* (Academic Press: Sydney).

Hooker, J. D. (1860). Introductory essay. *The botany of the antarctic voyage of H.M. discovery ships Erebus and Terror . . . III. Flora Tasmaniae.* (Lovell Reeve: London).

Hügel, A. von (1903). *Charles von Hügel.* (Cambridge).

Hügel, K. von (1833–1836). Unpublished Australian diaries. (Mitchell Library: Sydney).

Hügel, K. von (1837). Abbildungen und Beschreibungen neuer und seltener Pflanzen . . . *Bot. Arch. Gartenbauges.* Wien. Heft 1 & 2.

Hügel, K. von (1840–1844). *Kaschmir und das Reich der Sick.* 4 vols. (Hallberger's Verlagshandlung: Stuttgart).

Hügel, K. von (1847). Ueber die neuesten Unternehmungen zur Erforschung des Innern von Neuholland. *Haidinger* 2: 341–348.

Hügel, K. von (1850). Das Kabul-Becken und die Gebirge zwischen dem Hindu Kosch und der Sutlej. *K. Akad. Wiss. Philos.-hist. Kl. Denkschriften* 2: 119–190; 3: 73–112.

Hügel, K. von (1860). *Der stille Ocean und die spanischen Besitzungen im Ostindischen Archipel.* (K. & K. Hof -und Staatsdruckerei: Wien).

Jacquin, N. J. von (1781–1795). *Icones plantarum rariorum.* (C. F. Wappler: Wien).

Link, J. H. F. (1821–1822). *Enumeratio plantarum horti regii botanici berolinensis altera.* (G. Reimer: Berlin).

Mabberley, D. J. (1985). *Jupiter botanicus, Robert Brown of the British Museum.* (J. Cramer: Braunschweig).

Maiden, J. H. (1908). Records of Australian botanists - (a) General, (b) New South Wales. *J. Proc. Roy. Soc. New South Wales, Sydney.* 42: 60–132.

Maiwald, P. V. (1901). Die Opiz'sche Periode in der floristischen Erforschung Böhmens: Franz Wilhelm Sieber. *Jahresbericht des öffentlichen Stiftesobergymnasiums der Benedictiner zu Braunau in Böhmen am Schlusse des Schuljahres.* (Braunau).

Maiwald, P. V. (1904). *Geschichte der Botanik in Böhmen.* (Carl Fromme: Wien).

Napier, K. D. (1975). New Holland in Europe. *J. Roy. Western Australian Hist. Soc.* 7: 55–68.

Reichenbach, H. G. L. (1825). Sieberi flora Novae Hollandiae exsiccata. *Flora, Regensburg.* 8: 260–267.

Riedl-Dorn, C. (1988). Botanik und Gartenkunst im Wiener Vormärz. *In Bürgersinn und Aufbegehren.* (Historisches Museum: Wien).

Sibthorp, J. and Smith, J. E. (1806-[1840]). *Flora graeca.* (R. Taylor & Co.: London).

Sieber, F. (G). (1830). Verkauf eines grossen Herbariums. *Flora, Regensburg.* 13: Beilage: 27–29.

Sieber, F. W. (1824). Auszug aus einem Schreiben des Hrn. F. W. Sieber an dessen Freunde in Prag. *Flora, Regensburg.* 7: 250–253.

Stearn, W. T. (1976). *The Australian flower paintings of Ferdinand Bauer.* (Basilisk Press: London).

Steven, M. (1988). *First impressions.* (British Museum (Natural History): London).

Vanesa, E. (1988). Architectur. *In Bürgersinn und Aufbegehren,* (Historisches Museum: Wien).

Webster, H. (1988). *The Tasmanian traveller.* (Brolga Press: Canberra).

Weitenweber, W. R. (1852). Biographische Skizzen böhmischer Naturforscher. 3. Franz Wilhelm Sieber. *Lotos.* 2: 116–119.

Wurzbach, C. von (1856–1891). *Biographisches Lexikon des Kaiserthums Oesterreich.* (K. & K. Hof-und Staatsdruckerei: Wien).